APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/709,187	11/10/2000	David Raccah	ZAM-0001	4972

7590   07/19/2005

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EXAMINER
WANG, LIANG CHE A

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 07/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/709,187	RACCAH ET AL.
	Examiner	Art Unit	
	Liang-che Alex Wang	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1,6-8,11,13 and 14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,6-8,11,13 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 6-8, 11, 13, and 14 are presented for examination.

Paper Submitted

2. Receipt is acknowledged of a request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e) and a submission, filed on 3/18/2005.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 6-8, 11, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin, US Patent Number 6,298,451, hereinafter Lin.

5. Referring to claim 1, Lin teaches a storage system, comprising:

    a. a plurality of system servers connected to one another by a communication network having at least one node (Fig. 2), wherein each system server includes at least one process that provides a storage system function independent of the states of other system servers in response to a request to the storage system that may

affect multiple system servers (Fig. 2, 3A; col. 2, line 55- col. 3, line 3), and

wherein the storage system functions include:

i. at least one gateway service that includes a plurality of gateway servers,

each gateway server hosting at least one client process that can process

client requests and pass the resulting set of requests to the storage system

and including a process that may access at least one server directory to

determine the location of a system server that can service a generated

client request (Fig. 2, 3A-3C; col. 4, lines 32-37, 63- col. 5, line 30, col. 6,

lines 40-54);

ii. at least one storage server service that includes a plurality of storage

servers, each storage server including a process that accesses tiles stored in

the storage system independent of the files accessed by other storage

servers (Fig. 2, 3A3C; col. 2, line 55- col. 3, line 3, col. 4, lines 32-37, col.

6, lines 40-44);

iii. at least one service further comprises a metadata service that includes a

plurality of metadata servers, each metadata server including a process

that accesses a set of metadata independent of the metadata sets accessed

by other metadata servers (Fig. 2, 3A, 3C; col. 3, lines 62-67, col. 4, lines

32-37', col. 5, lines 7-22., col. 6, lines 40-44); and

iv. wherein the at least one instance of a storage server services and at least

one instance of a metadata service are separate from each other such that

the services may be scaled independently of each other (Figure 2, each of

Lin's servers 34-40, provides separate tasks, Figures 3A-C, Col 2 line 55 –

Col 3 line 3; Col 4 lines 32-37; Col 6 lines 40-44. Since each server is

providing separate tasks, they are scaled independently of each other.)

6. Referring to claim 6, Lin teaches the storage system of claim 1, further including: at least

one server directory that includes location information and service capabilities of the

system server (Fig. 2, 3A-C; Col 3, lines 36-41; Col 5 line 59 – Col 6 line 2, 47-65), at

least one server directory providing at least one server location in response to a request to

the storage system (Fig. 2, 3A-C; Col 3, lines 36-41; Col 5 line 59 – Col 6 line 2, 47-65).

7. Referring to claim 7, Lin teaches the storage system of claim 1, further including: a

routing request server that provides system server location information in response to a

request to the storage system, the location information corresponding to a system server

that is capable of servicing the request (Fig. 2, 3A-C; Col 3, lines 36-41; Col 5 line 59 –

Col 6 line 2, 47-65).

8. Referring to claims 8, 11, 13, and 14, claims 8, 11, 13 and 14 encompass the same scope

of the invention as that of the claims 1, 6, 7. Therefore, claims 8, 11, 13, and 14 are

rejected for the same reason as the claims 1, 6, and 7.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

10. Claims 8, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hickman et al., US Patent Number 6,564,252 131, hereinafter Hickman in views of Lin,

US Patent Number 6,298,451, hereinafter Lin.

11. Referring to claim 8, Hickman teaches a storage system, comprising:

    a. a plurality of servers arranged into at least two services each service providing

        different storage system functions independent of the status of any other service

        (Fig. 3, 10; col. 5, line 45- col. 6, line 5), and the servers of each service being

        functionally de-coupled from one another (Fig. 3), servicing requests, which may

        affect multiple servers, independent of the operation of other servers of the

        service (Fig. 3, col. 5, line 45- col. 6, line 5), the services including:

            i. a storage server service comprising a plurality of storage servers that

               provide access to files stored in a storage system, each storage server

               including an initialize function that may provide storage server location

               and storage server capability information (Fig. 3, 6, col. 5, line 60- col. 6,

               line 5, col. 7, lines 5-8, 46-50); and

          ii. a metadata service comprising a plurality of metadata servers that provide

               access to metadata for files stored in a storage system; each metadata

               server including an initialize function that may provide metadata server

               location and metadata server capability information (Fig. 3, 4, 5, 10; col.

               5, lines 45-56; col. 6, line 55- col. 7, line 21);

         iii. a server directory process that receives information for a storage system

               request an server location and capability information from the storage and

metadata server, and that provides information to locate a server capable

of servicing the request (Fig. 10, col. 6, lines 17-22, 55- col. 7, line 15-,

col. 12, lines 4-10); and

Hickman does not explicitly teach wherein the at least one instance of a storage

server services and at least one instance of a metadata service are separate from each

other such that the services may be scaled independently of each other.

However, Lin does teach wherein the at least one instance of a storage server

services and at least one instance of a metadata service are separate from each other such

that the services may be scaled independently of each other (Figure 2, each of Lin's

servers 34-40, provides separate tasks, Figures 3A-C, Col 2 line 55 – Col 3 line 3; Col 4

lines 32-37; Col 6 lines 40-44. Each server is providing separate tasks, they are scaled

independently of each other.)

It would have been obvious to a person with ordinary skill in the art at the time

the invention was made to incorporate the independently scaled metadata service and

storage services of Lin in Hickman such that to have instance of a storage server service

and a metadata service separated and scaled independently of each other because both

Hickman and Lin teaches load balancing in network storage systems.

A person with ordinary skill in the art would have been motivated to make the

modification to Hickman because having instance of a storage server service and a

metadata service separated and scaled independently of each other would enhancing the

load balance in a system as taught by Lin.

12. Referring to claim 11, Hickman teaches the storage system of claim 8, wherein the metadata server capability information includes a quality of service value (col. 10, lines 37-54).

13. Referring claim 13, Hickman teaches the storage system of claim 8, wherein the storage server capability information includes a set of files accessible by the storage server (Fig. 7; col. 7, line 60- col. 8, line 7).

14. Referring to claim 14, Hickman teaches the storage system of claim 8, further including: a plurality of gateway servers, each gateway server including a process that can access the server directory process to determine a location of a server capable of servicing a request and then access the server at the location to service the request (Fig. 3, 4, 5, 10; col. 5, lines 45-56).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made. Applicant must show how the amendments avoid such references and objections. See 37 CFR 1.111(c).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liang-che Alex Wang whose telephone number is (571)272-3992. The examiner can normally be reached on Monday thru Friday, 8:30 am to 5:00 pm.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Saleh Najjar can be reached on (571)272-4006. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Liang-che Alex Wang
July 12, 2005

SALEH NAJJAR
PRIMARY EXAMINER